

## Self-Diagnostic Error Codes

The Spa Power 600 controller has extensive self diagnostic capabilities. In the event of a problem it will indicate an error number according to the nature of the problem. The error numbers and their meanings are listed below. Note: When in an error state the alarm can be muted by pushing the AIR/AUX button.

### Error 1 (H2O) - Prime Failed

This is not necessarily a problem with the SP600 itself, but indicates that no water is being detected in the heater housing. Prime failed is a special case in that it can be recovered from by pushing a button. A push of the pump button will run the pump for 60 seconds to try to get water to the heater. If successful normal operation will resume. If unsuccessful, Error 1 (H2O) will be indicated on the display again.

**Error 2 - Not Used. With any Error 3-8, spa operation will stop and not continue until the controller is reset. (Switched off and on again at the main power supply)**

### Error 3 - Stuck Button

This error indicates that one of the buttons in the touch pad is stuck or has been held down for more than one minute. This may be caused by the pool cover pressing on the touch pad, or water getting into the touch pad or by damage to the touch pad or its cable. Try to reset the spa. If there is still a problem then contact your spa pool reseller.

### Error 4 - No Water Sensor

This error indicates a problem with the optical water sensor in the heater. The problem may be caused by the sensor being disconnected or by damage to the sensor. Try to reset the spa. If there is still a problem then contact your spa pool reseller.

### Error 5 - Overtemperature

This error indicates that the digital temperature sensor in the heater or pool has detected a temperature of 45°C or more. This may not be a problem with the SP600, it may be caused by excessive pump use in hot weather, or pump failure. Turn off the spa and allow time for the water to cool. If there is still a problem then contact your spa pool reseller.

### Error 6 - Thermal Cut Out Tripped

This error indicates that the safety electromechanical over temperature cut out on the heater has operated. This is not necessarily a problem with the SP600. It may have occurred from an air lock around the element, high temperatures during shipping, or failure of the pump. This automatic cut out will only reset once the element has cooled below about 38°C. The unit must then be reset before it will resume operation. (Switch off and on at the mains power supply).

### Error 7 - Stuck Relay

This error indicates a problem with the heater control circuitry inside the unit. Contact your spa pool reseller.

### Error 8 - No Temperature Data

This error indicates a problem with the digital temperature sensor in the heater or pool wall or that both the in heater and in pool sensors are connected. Check that only one sensor is connected and that it has not become disconnected or damaged. Try to reset the spa. If there is still a problem then contact your spa pool reseller.

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# SPA POWER 600 User Guide



SP600AC (24hr Circ Pump)

SP600BC (24hr Circ Pump)





**Congratulations** on choosing the latest Spa Power 600 control system. This controller makes use of the latest technology, including innovative optical and digital sensor designs. The greater variety of optional accessories, user-friendly touchpad and reliable components provide you with the most sophisticated controller in its class.

## Temperature Control

The Spa Power 600AC/BC uses a small circulation pump which runs 24 hours a day, to circulate water through the filter and heater. The heater is always automatically controlled to maintain the water at the desired temperature as set by the user (see below). The user can leave the system to look after the spa and know it will be at the correct temperature whenever he or she wants to use it.

### Adjusting Set Temperature

The Spa Power 600AC/BC gives the user direct control of the pool temperature from the poolside control panel. Holding down the Up or Down button will adjust the temperature set point as shown on the digital readout. There is a slight delay before the buttons operate to reduce the risk of accidental adjustment. The pool temperature will be maintained very close to the set temperature.

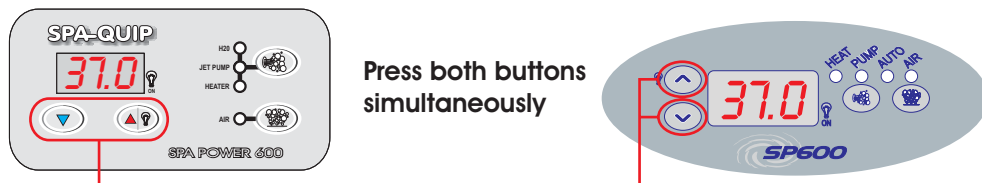
-  **UP** Increase the set temperature by 0.5°C per beep (Max = 41.5°C)
-  **DOWN** Decrease the set temperature by 0.5°C per beep (Min = 10.0°C)

Default Display 

The display normally shows the temperature set point, unless the optional in pool temperature sensor is fitted in which case the sensed water temperature is displayed. In either case the temperature set point will be displayed while being adjusted as described above.

### Non-Default Display Value

The non-default display value (either sensed water temperature or temperature set point) can be checked if necessary by pressing the Up & Down buttons simultaneously.



## Sleep Time (Optional Timeclock)

If the optional time clock has been fitted, sleep mode is used to disable automatic temperature maintenance and filtration in order to reduce the heat contribution from the small circulation pump and extend the small circulation pump and (optional) ozone system life. The sleep time setting is done using the digital time clock on the front of the control box (See below for setting instructions). The spa will wake from sleep mode when any button is pushed to allow it to be used manually as normal. If the spa is in use it will not enter sleep mode until 30 minutes after the last manual button push, even if the clock is calling for sleep mode. On wake up from sleep the system will run the Main pump for 15 seconds and then the blower for 15 seconds to purge the plumbing. This prevents any stagnant water from collecting in the pipes if the pool is not used for an extended period.



### To Set Current Time and Day

1. Press the **RESET** button before use. NOTE: This is optional. It will clear the current time and program settings.
2. Hold down the **CLOCK** button and press the **DAY** button until the correct day is selected. Release both buttons.
3. Hold down the **CLOCK** button and press the **HOUR** button until the correct hour is set. Release both buttons.
4. Hold down the **CLOCK** button and press the **MIN** button until the correct minute is set. Release both buttons.
5. After setting the weekday and time, the seconds will reset automatically and the clock will begin keeping time.

### To Set Programs

1. Press the **TIMER** button. "1ON" will appear at the left side of the display. This is the start time of the first programmed sleep block (the time you want the spa to enter the sleep mode).
2. Press the **DAY** button to select the days on which this sleep program will operate. There are 15 settings to choose from.
3. Press the **HOUR** button to set the hour of the desired time to enter sleep mode.
4. Press the **MIN** button to set the minutes of the desired time to enter sleep mode.
5. Now the start time has been set, press the **TIMER** button again. "1OFF" will appear on the display. This is the end time of the first programmed sleep block (the time you want the spa to resume normal operation).
6. Repeat the same procedure (2 to 4 above) until the "1OFF" time is set. (Be careful to set the same days as used in the "1ON" time).
7. Your timer gives you up to 8 different programmable periods. You can use all 8 settings, or as few as you like.
8. To Review your set programs press the **TIMER** button and keep pressing it to advance through each setting.

**IMPORTANT NOTE:** The "MANUAL" button on the clock can be used to override the programmed sleep settings. It is very important to ensure that the clock is set to "AUTO" so that the programmed times can operate. If the clock is manually set to ON then the pool will stay in sleep mode and THE WATER WILL GO COLD. If it is left in "OFF" then the pool will not enter the sleep mode. The clock does not return to "AUTO" by itself.

**NOTE:** If the "MANUAL" button on the clock is pushed the spa will not return to the programmed settings until the next programmed time.

## Auto Sanitising (Filtration)

The Spa Power 600AC/BC continuously filters the spa pool to ensure the water is clean and crystal clear for each and every spa use. A near silent energy efficient circulation pump constantly passes water through the filter and heater (only heating when necessary) 24 hours a day.

Since the circulation pump runs all the time (except in an error condition) and the heater is controlled automatically there is no need for any user controls for these features. With the Spa Power 600AC/BC there is no need to program any filtration cycles, and the noise of a large jet pump running during filtration has been removed.

## My spa is too hot in Summer!

During summer or warm periods of the year there may be times when the actual water temperature exceeds the desired temperature set by the user. e.g. If the spa is set to heat to 35°C, but the actual water temperature has reached 38°C.

Please consider this:

a) In the winter your spa gets cold because the air temperature is cold. To combat this we heat the water and keep the spa covered when not in use. If the spa is turned off and the ambient temperature is 15°C, eventually the spa water will lose heat until it too is 15°C.

b) In the summer, when ambient daytime temperature can be 35°C - 42°C, the spa water naturally heats to the temperature of the air. You can turn the heater down, even turn the pump off, but if the ambient temperature is 35°C - 42°C then the spa water will also remain at that temperature.

Manufacturers make no attempt to supply a system that cools water. The quickest way to combat the problem is to change the water, but even this new water will eventually heat up to the air temperature. To combat the heat you can also do the following:

- Turn the set temperature down so the heater does not come on.
- Make sure the spa is shaded from direct sunlight.
- If the nighttime temperature is low, leave the cover off the spa to let heat escape, but put it back on during the day to keep heat out.

## Pump Operation

The Pump Button allows the user to control the water pump as desired when using the pool. It is used to turn the pump on and off, and select speeds if a two-speed pump has been fitted. 2 pushes (AC models) or 3 pushes (BC models) on the pump button cycle the system as follows:



### Single Speed Pump (AC Models)

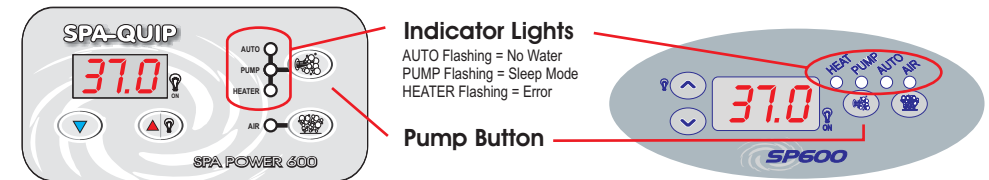
- Push 1 - Pump ON
- Push 2 - Pump OFF



### Two Speed Pump (BC Models)

- Push 1 - Pump LOW
- Push 2 - Pump HIGH
- Push 3 - Pump OFF

**Note: If left on, the pump will automatically switch off after 20 minutes. Switching the pump on (especially to high speed) may cause the heater to switch off (loadshedding). This is in order to keep the total power load to a safe level.**



### Indicator Lights

AUTO Flashing = No Water  
PUMP Flashing = Sleep Mode  
HEATER Flashing = Error

### Pump Button

### ● H2O Light

The yellow or blue H2O light indicates if water is present in the heater. If no water is detected then the light will flash and the unit will not operate except to run the circulation pump to try to get water to the heater. If no water reaches the heater for one minute then an H2O error will occur. If this happens then pushing the pump button will run the circulation pump for another minute.

### ● Jet Pump Light

The green Jet Pump light indicates whenever the jet pump is running.

### ● Heater Light

The red Heater light indicates when the heater element is on. The heater is controlled automatically to maintain the desired temperature as set by the user. Switching on the pump or air blower accessory may cause the heater to switch off (loadshed). This is in order to keep the total power load to a safe level.









## Auxiliary Air Button

The Air Button controls an auxiliary air blower. It is used to turn the blower on and off, and select different operating modes if a Spa Power Variable-Speed Blower (SPVSB) has been fitted. 2 pushes (STD) or 4 pushes (SPVSB) of the air button cycles the blower as follows:

### Standard Air Blower (STD)

- Push 1 - Blower ON
- Push 2 - Blower OFF




### Spa Power Variable-Speed Blower (SPVSB) (if fitted)

- |   |   |   |              |
|---|---|---|--------------|
| Push 1 - Blower ON (Full Speed)                 |  |  | Red Light    |
| Push 2 - Blower ADJUSTABLE (Adjustable Speed)   |  |  | Orange Light |
| Push 3 - Blower OSCILLATING (Oscillating Speed) |  |  | Green Light  |
| Push 4 - Blower OFF (Default State)             |  |  | No Light     |


Note: If left on, this accessory will automatically switch off after 20 minutes. If the heater element is on, switching on this accessory may cause the heater to loadshed and switch off. This is to keep the total power load to a safe level.

### Adjustable Speed Mode

If a Spa Power Variable-Speed Blower is fitted, the spa user has the ability to adjust the blower speed to any desired setting. The Up and Down buttons are used to set the desired blower speed. Note: If the blower is in Full Speed or Oscillating modes then pushing the Up or Down button will put it into Adjustable Speed mode and then adjust the speed.

- Step 1) Press Air Button **twice** to set Adjustable Speed Mode  Light turns to orange
- Step 2) Press Up  to **increase** speed of blower
- Step 3) Press Down  to **decrease** speed of blower

## Light Operation

The multi-function Light Button  is used to turn the light on and off and select the different operating modes of the Spa Power Variable Colour Light. Five short presses of the button will cycle the light as follows:

### Light Button

- Push 1 - Light ON (Colour - White)
- Push 2 - Light ADJUSTABLE (Adjustable Colour Mode - User selects colour of choice)
- Push 3 - Light SLOW CYCLING (Cycle through colours - slowly)
- Push 4 - Light FAST CYCLING (Cycle through colours - quickly)
- Push 5 - Light OFF (Default State)

**Note: This is a multi-function button which performs the following -**

- 1) Short presses of the button activate the light functions as detailed above.
- 2) Holding the button will begin to increase the set temperature of the spa.
- 3) When a Spa Power Variable Speed Blower is fitted and is turned on the button increases the blower speed.

### Adjustable Colour Mode

When the light is on pressing the Down button  will put the light into adjustable colour mode and then sequentially select through all the available colours. The last colour set in this mode will be remembered the next time the light is used.

### Indicator Light

A small red dot in the bottom corner of the digital readout indicates when the light is turned on. If left on the light will automatically switch off after 30 minutes.



### Safety Notes

Before using ensure that the spa pool has been connected to a suitable weather protected outlet socket, equipped with a double pole isolating switch, which is of the correct rating and complies with the local wiring regulations.

When installing refer to your local wiring code. In particular refer to ECP 2 & ECP 25 (AS / NZ) and EN 60364-4-1 & EN 60364-7-1 (EU). The system must be installed in such a way that live parts are not accessible by a person in the pool. If a supply cord is not fitted the system must be permanently connected to fixed wiring through a 30mA or less RCD.

This appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure they do not play with the appliance.